IN THE SPECIFICATION

Please amend the Title on page 1 as follows:

~~COST ESTIMATION METHOD, COST ESTIMATION APPARATUS, PRODUCT MANUFACTURING ESTIMATION METHOD,~~ PRODUCT MANUFACTURING ~~ESTIMATION~~ MAN-HOUR ESTIMATING APPARATUS

Please replace the paragraph beginning at page 10, line 24, with the following rewritten paragraph:

The three-dimensional CAD 1 executes a product manufacturing estimation program stored in the estimation program memory 9. The estimation apparatus 100 comprises an estimation-element-extracting section 10, a process designing section 11, a ~~cost~~ man-hour-estimating section 12, a cost estimating section 13, a cost analyzing section 14 and a cost simulation section 15.

Please replace the paragraph beginning at page 12, line 21, with the following rewritten paragraph:

For example, a PB (bending) estimation formula is:

~~Cost~~ Man-hour = bending time period [plate thickness, length, width] + (the number of times-1) X mold-changing unit time

Please replace the paragraph beginning at page 14, line 2, with the following rewritten paragraph:

The ~~cost~~ man-hour-estimating section 12 executes calculations using the estimation formulas, which are shown in FIG. 4 and stored in the estimation reference database 5, thereby estimating the costs of each product manufacturing step set by the process setup section 11.

Please replace the paragraph beginning at page 14, line 7, with the following rewritten paragraph:

The ~~cost~~ man-hour-estimating section 12 estimates costs by processing a programming rule preinstalled in the product manufacturing estimation apparatus 100.

Please replace the paragraph beginning at page 14, line 10, with the following rewritten paragraph:

The ~~cost~~ man-hour-estimating section 12 includes a program-automatic-creating section 16 configured to automatically convert each estimation formula shown in FIG. 4 into an executable format when estimating the ~~costs~~ man-hours of each manufacturing step.

Please replace the paragraph beginning at page 15, line 15, with the following rewritten paragraph:

Moreover, the program-automatic-creating section 16 converts each estimation formula including a function, into a format that can be executed by a corresponding

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programming rule preinstalled in the ~~cost~~ <u>man-hour</u>-estimating section. For example, in the case where a plurality of estimation elements are included in an estimation formula, a function in the formula obtains the sum of them, using the estimation formula. The function numbers the number of estimation element names. The function numbers the number of the types of estimation element names. If a plurality of estimation elements are included, the function obtains a maximum value or a maximum value thereof.

Please replace the paragraph beginning at page 16, line 1, with the following rewritten paragraph:

The estimation program memory 9 stores a program for operating the ~~process~~ <u>man-hour</u> estimating section 12. This program includes the following instructions--an instruction to extract each estimation element from the estimation formulas; an instruction to create the first source program for converting each estimation element into a format that can be executed by a preinstalled programming rule; an instruction to extract, from the estimation formulas, estimation elements that form the physical unit table; an instruction to convert each estimation element into a format that can be executed by a corresponding preinstalled programming rule; an instruction to create the second source program for extracting each physical unit value from the physical unit table stored in the estimation reference database 7; and an instruction to convert each estimation formula into a format that can be executed by a corresponding preinstalled programming rule, on the basis of the first and second source programs.

Please replace the paragraph beginning at page 16, line 20, with the following rewritten paragraph:

The cost estimating section 13 multiplies the ~~cost~~ man-hours, estimated by the ~~process~~ man-hour estimating section 12, by the process rate stored in the process-rate/ material-cost database 8, and adds a material unit price and a purchase unit price to the resultant value, thereby estimating the whole cost.

Please replace the paragraph beginning at page 16, line 26 with the following rewritten paragraph:

On the basis of the ~~cost~~ man-hours estimated by the ~~cost~~ man-hour-estimating section 12 and the cost estimated by the cost estimating section 13, the cost analyzing section 14 analyzes and estimates a rate-determining factor, using a component-cost-analyzing graph, a process-cost-analyzing graph and a check list. After that, the cost analyzing section 14 indicates a factor that inhibits a cost reduction, or a design improvement factor for facilitating processing.

Please replace the paragraph beginning at page 21, line 2 with the following rewritten paragraph:

A description will now be given of, for example, a case where the estimation formula is:

~~Costs~~ Man-hours = bending-treatment time [plate thickness, length, width] + (the number of times-1) X mold-changing unit time

Please replace the paragraph beginning at page 24, line 14 with the following

rewritten paragraph:

For example, as shown in FIG. 10, the aforementioned estimation formula:

{~~costs~~ Man-hours = bending-treatment time [plate thickness, length, width] + (the number of

occasions-1) X mold-changing unit time}

is converted into the following estimation formula that can be executed by a preinstalled

programming rule:

~~costs~~ Man-hours = bending-treatment time ( ) + (the number of occasions ( ) -1) X mold-

changing unit time ( )

Please replace the paragraph beginning at page 24, line 23 with the following

rewritten paragraph:

As a result, the ~~process~~ man-hour estimating section 12 refers to the estimation

elements shown in FIG. 2 and the physical unit table shown in FIG. 5, thereby executing the

estimation formula converted executable by the programming rule to estimate the required

costs.

Please replace the paragraph beginning at page 25, line 1 with the following rewritten

paragraph:

At a step #10, the cost estimating section 13 causes the operator Q to confirm the

~~costs~~ man-hours estimated by the ~~cost~~ man-hour-estimating section 12, and to change the

estimation elements or the estimation reference if there is an error, thereby again estimating the required costs.

Please replace the paragraph beginning at page 25, line 7 with the following rewritten paragraph:

At the next step #11, the cost estimating section 13 inputs the ~~costs~~ man-hours estimated by the cost-estimating section 12, thereby multiplying the ~~costs~~ man-hours by a process rate stored in the process-rate/material-cost database 8 shown in FIG. 6, adding the unit price of each material and the unit price of each purchased article, and estimating the whole cost.

Please replace the paragraph beginning at page 25, line 14 with the following rewritten paragraph:

For example, in the case of a component of No. "7" in the component configuration table, the required cost is given by the following equations:

Process cost = ~~process costs~~ man-hours X process rate

$$= \text{(preparatory plan man-hours +process man-hours)} \times \text{process rate}$$

$$= (0.16 \text{ h} + 0.012 \text{ h}) \times \text{Yen } 10000/\text{h}$$

$$= \text{Yen } 1720$$

Material cost = weight X unit price of material

$$= 0.15 \text{ kg} \times \text{Yen } 78$$

$$= \text{Yen } 13$$

Purchased article = Yen 0

Cost = process cost + material cost + purchased article price

$$= \text{Yen } 1720 + \text{Yen} 13 + \text{Yen } 0$$

$$= \text{Yen } 1733$$

Please replace the paragraph beginning at page 26, line 3 with the following rewritten paragraph:

Thereafter, at a step #12, the cost analyzing section 14 creates a component-cost-analyzing graph as shown in FIG. 11, a process-cost-analyzing graph as shown in FIG. 12, and a check list, on the basis of the ~~costs~~ <u>man-hours</u> estimated by the ~~cost~~ <u>man-hour-</u> estimating section 12 and the cost estimated by the cost estimating section 13.